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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,808	11/13/2001	Shogo Kawamura	35.C14198 D	6234

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EXAMINER

BROOKE, MICHAEL S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,808

Applicant(s)

KAWAMURA ET AL.

Examiner

Michael S. Brooke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-21 and 23-35 is/are pending in the application.
- 4a) Of the above claim(s) 12,14-16 and 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11,13,22-29 and 35 is/are rejected.
- 7) ☒ Claim(s) 17 and 30-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/488,931.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 24-29 and 35 are rejected under 35 U.S.C. 102(a) as being anticipated the Applicant's Admitted Prior Art (AAPA).

With respect to claim 24, Fig. 3 of the AAPA teaches an ink jet recording head comprising a recording element substrate (1a, 1b and 1c) having discharge port groups. An electric wiring substrate (12) is electrically connected to the recording element substrate. A support member (7) supports the recording element substrate. A sealing area (the area containing resin (10c)) is formed by the supporting member, the recording element substrate and the wiring substrate. As can be seen in Fig. 5, a filler retaining portion comprises a stepped portion of the recording element substrate and the support member. That is, looking at Fig. 5 it can be seen that the sealing resin (13a) is contained in a step portion that is defined by the recording element substrate and the support. Furthermore, looking at Fig. 1, it can be seen that the electrode terminals are only formed on two of the four side of the substrate (1). Since the filler in Fig. 5 is disposed on all four sides, then the filler is disposed adjacent to a side face of the recording element substrate having no electrode terminals. The steps of the

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process are not patentably limiting with regard to the structure, since the patentability of a product does not depend on its method of production, but rather, on the product itself.

With respect to claim 25, the filler retaining portion is an opening portion that is arranged on a reverse side the supporting member.

With respect to claim 26, the sealing resin fills the filler retaining portion around the circumference of the recording element substrate.

With respect to claim 27, the filler retaining portion is arranged toward a center of a reverse side of a portion electrically connecting the recording element substrate and the wiring substrate. That is, the filler portion is position toward the center of substrates (4a-4c), which connect the recording element substrate with the wiring substrate (12).

With respect to claim 28, as can be seen in Fig. 3 of the AAPA, the filler retaining portion (10c) tapers toward the recording element substrate.

With respect to claim 29, the filler retaining portion comprises portions arranged on a sealing location on one side of the recording element substrate and on a sealing location on an opposite side of the recording element substrate. That is, the filler retaining portion is formed on both sides of the recording element substrate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 13 and 22 are rejected under 35 U.S.C. 102(a) as being unpatentable over the Applicant's Admitted Prior Art (AAPA) in view of Keefe et al. (5,278,584).

With respect to claim 11, Fig. 3 of the AAPA teaches an ink jet recording head comprising a recording element substrate (1a, 1b and 1c) having discharge port groups. An electric wiring substrate (12) is electrically connected to the recording element substrate. A support member (7) supports the recording element substrate. A sealing area (the area containing resin (10c)) is positioned on the support member adjacent to the recording element substrate. A sealant retaining portion (the walls defining the sealing area) communicates with the sealing area. As can be seen in Fig. 5, a filler retaining portion comprises a stepped portion of the recording element substrate and the support member. That is, looking at Fig. 5 it can be seen that the sealing resin (13a) is contained in a step portion that is defined by the recording element substrate and the support. Furthermore, looking at Fig. 1, it can be seen that the electrode terminals are only formed on two of the four side of the substrate (1). Since the filler in Fig. 5 is disposed on all four sides, then the filler is disposed adjacent to a side face of the recording element substrate having no electrode terminals.

With respect to claim 13, since the sealant retaining portion extends along the circumference of the recording element substrate, when the sealing resin is added to the sealant retaining portion, the sealing resin would be fill the sealant area from the retaining portion to the circumference of the recording element substrate.

The AAPA teaches the claimed invention with the exception of the sealant being a thermohardening filler.

Keefe et al. teaches (Fig. 5) an inkjet print head having a headland (50) to which a print head is bonded using an epoxy resin (col. 5:28-40). An epoxy resin is a thermohardening filler. Thus, Keefe teaches that it is conventional in the ink jet art to use a thermohardening filler to seal and bond a print head substrate to the ink cartridge.

It would have been obvious to one of ordinary skill in the ink jet art at the time the invention was made to have provided the AAPA with a thermohardening filler as a sealant, in order to produce an ink jet print head in a notoriously old and well known manner, as taught by Keefe.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's Admitted Prior Art (AAPA) in view of Keefe et al. (5,278,584), as applied to claims 11, 13 and 22 above, and further in view of Hirosawa (EP 822,078).

The AAPA, as modified, teaches the claimed invention with the exception of a carriage.

Hirosawa et al. teaches that it is known to mount a print head, similar to the one taught by the AAPA, in a carriage (80). It is well known in the ink jet art to mount a print head on a carriage, in order to scanning the head across a recording medium, so as to form a full page image.

It would have been obvious to one of ordinary skill in the ink jet art, at the time the invention was made, to have mounted the AAPA head in a carriage, in order to effectuate full page printing, as taught by Hirosawa.

Allowable Subject Matter

Claims 17 and 30-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 17 and 30 recite both a supporting plate with an opening for the recording element substrate that is placed between the wiring substrate and the supporting member, and a supporting substrate that is placed between the recording element substrate and the supporting member. The prior art of recording fails to teach the combination of these two elements.

Response to Arguments

The Applicant's arguments filed 05/12/04 have been fully considered but they are not persuasive.

Applicant's argument that the prior art fails to teach a filler retaining portion comprising a stepping portion of a recording element substrate and a supporting member, the filler retaining portion being disposed adjacent to a face of the recording

element substrate having no electrode terminals arranged therefor, and the filler retaining portion communicating with a sealing area requiring sealing, the sealing area being formed by the supporting member, the recording element substrate and an electric wiring substrate is not persuasive. As discussed in the rejection above, the prior art does teach these features.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael S. Brooke whose telephone number is (571) 272-2142. The examiner can normally be reached on M-F from 5:30 AM-2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael S. Brooke
Primary Examiner
Art Unit 2853

MSB
05/23/04